UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,898	05/12/2006	**Hideki Kitaura**	2006_0599A	3601

52349 7590 10/03/2008

WENDEROTH, LIND & PONACK L.L.P.
2033 K. STREET, NW
SUITE 800
WASHINGTON, DC 20006

EXAMINER	
VERDERAME, ANNA L	
ART UNIT	**PAPER NUMBER**
1795	

MAIL DATE	DELIVERY MODE
10/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,898	KITAURA ET AL.	
	Examiner	Art Unit	
	ANNA L. VERDERAME	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/12/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 13-30 rejected under 35 U.S.C. 102(e) as being anticipated by Kitaura et al. US 2005/020203.

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

See example at (0073).

3. Claims 13-31 are rejected under 35 U.S.C. 102(a) as being anticipated by Kitaura et al. US 2004/0191686.

See example 1 at (0066-0067). See also claims 1-17. Vacuum evaporation is recited as a film forming method(0057). It is the position of the examiner that vacuum evaporation is done under vacuum and therefore a pressure during the film forming process is inherently 0.01 Pa or lower as recited in instant claim 32

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 13 and 15-22 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. US 2004/0126533.

In example 1 Kojima et al. teaches an optical recording medium having a $ZnS\text{-}SiO_2$ protective layer, A Ge-N first interface layer, a phase change recording layer, a second Ge-N interface layer, a second $ZnS\text{-}SiO_2$ protective layer, a GeCr optical absorption correction layer, and an Ag alloy reflective layer formed on a substrate(0068-69). Vacuum deposition is disclosed at (0018, 0055, and 0058).

It is the position of the examiner that and Ag-alloy layer having no In meets the limitation recited in claim 13 which requires that the In content is no more than 5%.

Materials for the interface layers include Ta-N, Zr-N, and Ti-N(0038).

Materials for the absorption layer include Si-Cr(50% Silicon-50% Cr), Si-Mo and Si-W(0039).

It would have been obvious to one of ordinary skill in the art to modify the medium taught at (0068-0069) by forming the interface layers of Ta-N, Ti-N or Zr-N and forming the absorption layer of Si-Cr(50% Silicon-50% Cr) based on the disclosure of equivalence at (0038-0039) and with the reasonable expectation of success.

6. Claims 13 and15-22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Terao et al US 6,806,030.

In example 4 Terao et al. teaches an optical recording medium comprising a ZnS-SiO_2 protective layer, a Cr_2O_3 interfacial layer, A Ge-Sb-Te recording layer, a Cr_2O_3 upper interfacial layer, a ZnS-SiO_2 upper protective layer, a $Cr_{75}(Cr_2O_3)_{25}$ absorption compensation film and an AlTi reflective layer formed on a substrate(21/10-60). Si-Cr(50% Si-50% Cr) can replace the Cr-(Cr_2O_3) absorption compensation film(19/24). Mixtures of Al_2O_3 and SiO_2 can be used in place of the Cr_2O_3 interfacial layers(17/64-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the optical recording medium taught by Terao et al. at 2/10-60) by alternatively forming the upper and lower interface layers of a mixture of Al_2O_3 and SiO_2 and forming the absorption compensation film of Si-Cr based on the disclosure of equivalence and with a reasonable expectation of success.

7. Claims 13-17,20, 23-25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. US 2003/0179117.

Kojima et al. teaches an optical recording medium like that in figure 1 comprising a first dielectric layer 2, a recording layer 4, a second dielectric 6, an optical compensation layer 7, and a reflective layer 8 formed on a substrate. The dielectric layer are both Zr-Cr-O layers(0089-0091). Materials for the recording layer 4 are disclosed at (0104). The optical compensation layer 7 can be made of Si-Cr(50% -Si:-50%-Cr), Si-Mo, or Si-W(0111) Refractive indexes for the absorption compensation film are disclosed to be in the range of 3-6. The reflective layer can be made of an Ag-alloy layer(0112). Pressure during film formation is .013

Figure 5 teaches an optical recording medium comprising a second information layer 22 an intermediate layer 16 and a first information layer 21 formed on a substrate 101. The second information layer 22 comprises a second reflective layer 20, a fifth dielectric layer 19, a second recording layer 18, and a fourth dielectric layer 17. The first information layer 21 is formed by stacking a third dielectric 15, a first reflective layer 14, a second dielectric layer 6 , a first recording layer 13, and a first dielectric 2(0157).

It would have been obvious to one of ordinary skill in the art to form a medium like that in figure 1 of Kojima et al. wherein the optical compensation layer is Si-Cr and the reflective layer is made of an alloy of Ag based on the

disclosure at (0111) and (0112). Further, it would have been obvious to form a dual-layer optical recording medium having a structure like that shown in figure 5 and having a absorption layer in the recording stack nearest the light incident plane and having both the reflective layers in the first and second recording stacks be made of an Ag-alloy based with the reasonable expectation of forming a useful recording medium having increased recording capacity.

8. Claims 18-19, 21-22, 26-27, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima et al. US 2003/0179117 in view of Terao et al US 6,806,030.

Kojima et al. does not teach upper and lower interface layer placed between the upper and lower dielectric layer and the recording layer.

Terao et al. teaches the use of interfacial layer between the upper and lower dielectric layer and the recording layer and the benefits obtained by doing so(11/45-113/55) and 17/64-18/30). Benefits include deterioration prevention.

It would have been obvious to modify the single-layer and dual-layer optical recording media rendered obvious by Kojima et al. by forming interface layers of for example Al_2O_3-SiO_2 on both sides of each recording layer based on the teachings of Terao et al. and with the reasonable expectation of forming a medium having increased durability.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 13-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 11/059,657 Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of copending application 11/059,657 recite all the limitations found in the instant claims. See embodiment found at (0073) of US 2005/0202203.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 13-32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 7,074,471. Although the conflicting claims are not identical, they are not patentably distinct from each other because See embodiment at (0066-0067) and teaching to form layers using a vacuum deposition method at (0057).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-US 6,905570- Teaches and AgIn reflective layer for use in an optical disc(claim82).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNA L. VERDERAME whose telephone number is (571)272-6420. The examiner can normally be reached on M-F 8A-4:30P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571)272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark F. Huff/
Supervisory Patent Examiner, Art Unit 1795

/A. L. V./
Examiner, Art Unit 1795